



Billing Code 4310-55

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

[FWS-R8-FHC-2012-N018]

[FF08EVEN00-FXFR1337088SSO0L5-123]

Marine Mammal Protection Act; Stock Assessment Report

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of availability of draft revised stock assessment report for the southern sea otter in California; request for comments.

SUMMARY: In accordance with the Marine Mammal Protection Act of 1972, as amended (MMPA), and its implementing regulations, we, the U.S. Fish and Wildlife Service (Service), have developed a draft revised marine mammal stock assessment report (SAR) for the southern sea otter (*Enhydra lutris nereis*) stock in the State of California. We now make the SAR available for public review and comment.

DATES: We will consider comments that are received or postmarked on or before [INSERT DATE 90 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: If you wish to review the draft revised SAR for southern sea otter, you may obtain a copy from our website at <http://www.fws.gov/ventura>. Alternatively, you may contact the Ventura Fish and Wildlife Office, 2493 Portola Road, Suite B, Ventura, CA 93003 (telephone: 805-644-1766). If you wish to comment on the SAR, you may submit your comments in writing by any one of the following methods:

- *U.S. mail:* Field Supervisor, at the above address;
- *Hand delivery:* Ventura Fish and Wildlife Office at the above address;
- *Fax:* (805) 644-3958; or
- *Email:* fw8ssostock@fws.gov.

FOR FURTHER INFORMATION CONTACT: Lilian Carswell, at the above street address, by telephone (805-612-2793), or by email (Lilian_Carswell@fws.gov).

SUPPLEMENTARY INFORMATION:

Background

Under the MMPA (16 U.S.C. 1361 et seq.) and its implementing regulations in the Code of Federal Regulations (CFR) at 50 CFR part 18, we regulate the taking, possession, transportation, purchasing, selling, offering for sale, exporting, and importing of marine

mammals. One of the MMPA's goals is to ensure that stocks of marine mammals occurring in waters under U.S. jurisdiction do not experience a level of human-caused mortality and serious injury that is likely to cause the stock to be reduced below its *optimum sustainable population level* (OSP). OSP is defined under the MMPA as "...the number of animals which will result in the maximum productivity of the population or the species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element" (16 U.S.C. 1362(3)(9)).

To help accomplish the goal of maintaining marine mammal stocks at their OSPs, section 117 of the MMPA requires the Service and the National Marine Fisheries Service (NMFS) to prepare a SAR for each marine mammal stock that occurs in waters under U.S. jurisdiction. A SAR must be based on the best scientific information available; therefore, we prepare it in consultation with established regional scientific review groups. Each SAR must include:

1. A description of the stock and its geographic range;
2. A minimum population estimate, maximum net productivity rate, and current population trend;
3. An estimate of human-caused mortality and serious injury;
4. A description of commercial fishery interactions;
5. A categorization of the status of the stock; and
6. An estimate of the *potential biological removal* (PBR) level.

The MMPA defines the PBR as "the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its OSP" (16 U.S.C. 1362(3)(20)). The PBR is the product of the minimum population estimate of the stock (N_{\min}); one-half the maximum theoretical or estimated net

productivity rate of the stock at a small population size (R_{\max}); and a recovery factor (F_r) of between 0.1 and 1.0, which is intended to compensate for uncertainty and unknown estimation errors. This can be written as:

$$\text{PBR} = (N_{\min})(\frac{1}{2} \text{ of the } R_{\max})(F_r)$$

Section 117 of the MMPA also requires the Service and NMFS to review the SARs (a) at least annually for stocks that are specified as strategic stocks, (b) at least annually for stocks for which significant new information is available, and (c) at least once every 3 years for all other stocks.

A *strategic stock* is defined in the MMPA as a marine mammal stock “(a) for which the level of direct human-caused mortality exceeds the PBR level; (b) which, based on the best available scientific information, is declining and is likely to be listed as a threatened species under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)[the “ESA”], within the foreseeable future; or (c) which is listed as a threatened or endangered species under the ESA, or is designated as depleted under [the MMPA].” 16 U.S.C. 1362(3)(19).

The southern sea otter SAR was last revised in December 2008. Because the southern sea otter qualifies as a strategic stock due to its listing as a threatened species under the ESA, the Service had reviewed the stock assessment annually since then. In December of 2009 and again in December of 2010, Service reviews concluded that revision was not warranted because the stock had not changed significantly, nor could it be more accurately determined. However, upon review in 2011, the Service determined that revision was warranted due to an increase in the relative number of strandings.

The following table summarizes the information we are now making available in the draft revised southern sea otter SAR, which lists the stock’s N_{\min} , R_{\max} , F_r , PBR, annual estimated

human-caused mortality and serious injury, and status. After consideration of any public comments we receive, the Service will revise and finalize the SAR, as appropriate. We will publish a notice of availability and summary of the final SAR, including responses to submitted comments.

Summary: Draft revised stock assessment report, Southern Sea Otter in California.

Stock	N_{MIN}	R_{MAX}	F_R	PBR	Annual estimated average human-caused mortality and serious injury (5-year average)	Stock status
Southern sea otters	2,762	0.06	0.1	8	Due to lack of observer coverage, a science-based estimate cannot be made	Strategic

Public Availability of Comments

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

References

In accordance with the MMPA, we include in this notice a list of the information sources and public reports upon which we based the SAR.

Bacon, C.E. 1994. An ecotoxicological comparison of organic contaminants in sea otters among populations in California and Alaska. M.S. thesis, University of California, Santa Cruz.

Bacon, C.E., W.M. Jarman, J.A. Estes, M. Simon, and R.J. Norstrom. 1999. Comparison of organochlorine contaminants among sea otter (*Enhydra lutris*) populations in California and Alaska. Environ. Toxicology and Chemistry 18(3):452-458.

Bentall, G.B. 2005. Morphological and behavioral correlates of population status in the southern sea otter: a comparative study between central California and San Nicolas Island. Master's Thesis, University of California, Santa Cruz, unpublished.

Bryant, H.C. 1915. Sea otters near Point Sur. California Department of Fish and Game Bull. 1:134-135.

Cameron, G.A., and K.A. Forney. 2000. Preliminary estimates of cetacean mortality in California/Oregon gillnet fisheries for 1999. Paper SC/S2/O24 presented to the International Whaling Commission, 2000 (unpublished). 12 pp. Available from NMFS, Southwest Fisheries Science Center, P.O. Box 271, La Jolla, California.

Carretta, J.V. 2001. Preliminary estimates of cetacean mortality in California gillnet fisheries for 2000. Paper SC/53/SM9 presented to the International Whaling Commission, 2001 (unpublished). 21 pp. Available from NMFS, Southwest Fisheries Science Center, P.O. Box 271, La Jolla, California.

Cronin, M.A., J. Bodkin, B. Bellachey, J.A. Estes, and J.C. Patton. 1996. Mitochondrial-DNA variation among subspecies and populations of sea otters (*Enhydra lutris*). J. Mammal.

77:546-557.

- Estes, J.A. 1990. Growth and equilibrium in sea otter populations. *J. Anim. Ecol.* 59:385-401.
- Estes, J.A., and R.J. Jameson. 1988. A double-survey estimate for sighting probability of sea otters in California. *J. Wildl. Manage.* 52:70-76.
- Estes, J.A., B.B. Hatfield, K. Ralls, and J. Ames. 2003. Causes of mortality in California sea otters during periods of population growth and decline. *Marine Mammal Science* 19(1):198-216.
- Forney, K.A., S.R. Benson, and G.A. Cameron. 2001. Central California gill net effort and bycatch of sensitive species, 1990-1998. Pages 141-160 *in* Seabird Bycatch: Trends, Roadblocks, and Solutions, E.F. Melvin and J.K. Parrish, eds. Proceedings of an International Symposium of the Pacific Seabird Group, University of Alaska Sea Grant, Fairbanks, Alaska, 212 pp.
- Hatfield, B.B., and J.A. Estes. 2000. Preliminary results of an evaluation of the potential threat to sea otters posed by the nearshore finfish trap fishery. Unpublished. 6 pp. plus appendices.
- Hatfield, B.B., J.A. Ames, J.A. Estes, M.T. Tinker, A.B. Johnson, M.M. Staedler, and M.D. Harris. 2011. Sea otter morality in fish and shellfish traps: estimating potential impacts and exploring possible solutions. *Endangered Species Research* 13:219–229.
- Herrick, S.F., Jr., and D. Hanan. 1988. A review of California entangling net fisheries, 1981-1986. National Oceanic and Atmospheric Administration Technical Memorandum. National Marine Fisheries Service. NOAA-TM-NMFS-SWFC-108. 39 pp.
- Jameson, R.J. 1989. Movements, home range, and territories of male sea otters off central California. *Marine Mammal Science* 5:159-172.

- Jameson, R.J., and S. Jeffries. 1999. Results of the 1999 survey of the Washington sea otter population. Unpublished report. 5 pp.
- Jameson, R.J., and S. Jeffries. 2005. Results of the 2005 survey of the reintroduced Washington sea otter population. Unpublished report. 6 pp.
- Jessup, D.A., M.A. Miller, M. Harris, B.B. Hatfield, and J.A. Estes. 2004. The 2003 southern sea otter (*Enhydra lutris nereis*) unusual mortality event: A preliminary report to NOAA and USFWS. Unpublished report. 38pp.
- Johnson, C.K., M.T. Tinker, J.A. Estes, P.A. Conrad, M. Staedler, M.A. Miller, D.A. Jessup, and J. A.K. Mazet. 2009. Prey choice and habitat use drive sea otter pathogen exposure in a resource-limited coastal system. PNAS 106:2242-2247.
- Kannan, K., E. Perrotta, and N.J. Thomas. 2006. Association between perfluorinated compounds and pathological conditions in southern sea otters. Environmental Science & Technology 40:4943-4948.
- Kannan, K., E. Perrotta, N.J. Thomas, and K.M. Aldous. 2007. A comparative analysis of polybrominated diphenyl ethers and polychlorinated biphenyls in southern sea otters that died of infectious diseases and noninfectious causes. Archives of Environmental Contamination and Toxicology 53:293–302.
- Kannan K., K.S. Guruge, N.J. Thomas, S. Tanabe, J.P. Giesy. 1998. Butyltin residues in southern sea otters (*Enhydra lutris nereis*) found dead along California coastal waters. Environmental Science and Technology 32:1169-1175.
- Kooyman, G.L., and D.P. Costa. 1979. Effects of oiling on temperature regulation in sea otters. Yearly progress report, Outer Continental Shelf Energy Assessment Program.
- Kreuder, C., M.A. Miller, D.A. Jessup, L.J. Lowenstein, M.D. Harris, J.A. Ames, T.E. Carpenter,

- P.A. Conrad, and J.A.K. Mazet. 2003. Patterns of mortality in southern sea otters (*Enhydra lutris nereis*) from 1998-2001. *Journal of Wildlife Diseases* 39(3):495-509.
- Kreuder, C., M.A. Miller, L.J. Lowenstine, P.A. Conrad, T.E. Carpenter, D.A. Jessup, and J.A.K. Mazet. 2005. Evaluation of cardiac lesions and risk factors associated with myocarditis and dilated cardiomyopathy in southern sea otters (*Enhydra lutris nereis*). *American Journal of Veterinary Research* 66:289-299.
- Laidre, K.L., R.J. Jameson, and D.P. DeMaster. 2001. An estimation of carrying capacity for sea otters along the California coast. *Marine Mammal Science* 17(2):294-309.
- Larson, S., R. Jameson, J. Bodkin, M. Staedler, and P. Bentzen. 2002. Microsatellite DNA and mitochondrial DNA variation in remnant and translocated sea otter (*Enhydra lutris*) populations. *J. Mammal.* 83(3):893-906.
- Mayer, K.A., M.D. Dailey, and M.A. Miller. 2003. Helminth parasites of the southern sea otter *Enhydra lutris nereis* in central California: abundance, distribution, and pathology. *Diseases of Aquatic Organisms* 53:77-88.
- Miller, M.A., R.M. Kudela, A. Mekebri, D. Crane, S.C. Oates, M.T. Tinker, M. Staedler, W.A. Miller, S. Toy-Choutka, C. Domink, D. Hardin, G. Langlois, M. Murray, K. Ward and D.A. Jessup. 2010. Evidence for a novel marine harmful algal bloom: cyanotoxin (Microcystin) transfer from land to sea otters. *PLoS ONE* 5(9): e12576.
- Nakata, H., K. Kannan, L. Jing, N. Thomas, S. Tanabe, and J.P. Giesy. 1998. Accumulation pattern of organochlorine pesticides and polychlorinated biphenyls in southern sea otters (*Enhydra lutris nereis*) found stranded along coastal California, USA. *Environ. Poll.* 103:45-53.
- Ralls, K., T.C. Eagle, and D.B. Siniff. 1996. Movement and spatial use patterns of California

- sea otters. Canadian Journal of Zoology 74:1841-1849.
- Riedman, M.L., and J.A. Estes. 1990. The sea otter (*Enhydra lutris*): behavior, ecology, and natural history. U.S. Fish and Wildlife Service, Biol. Rep. 90(14). 126 pp.
- Riedman, M.L., J.A. Estes, M.M. Staedler, A.A. Giles, and D.R. Carlson. 1994. Breeding patterns and reproductive success of California sea otters. J. Wildl. Manage. 58:391-399.
- Sanchez, M.S. 1992. Differentiation and variability of mitochondrial DNA in three sea otter, *Enhydra lutris*, populations. M.S. Thesis, University of California, Santa Cruz.
- Siniff, D.B., and K. Ralls. 1991. Reproduction, survival, and tag loss in California sea otters. Marine Mammal Science 7(3):211-229.
- Siniff, D.B., T.D. Williams, A.M. Johnson, and D.L. Garshelis. 1982. Experiments on the response of sea otters, *Enhydra lutris*, to oil contamination. Biol. Conserv. 2:261-272.
- Taylor, B.L., M. Scott, J. Heyning, and J. Barlow. 2002. Suggested guidelines for recovery factors for endangered marine mammals. Unpublished report submitted to the Pacific Scientific Review Group. 7 pp.
- Tinker, M.T., G. Benthall, and J.A. Estes. 2008. Food limitation leads to behavioral diversification and dietary specialization in sea otters. PNAS 105:560-565.
- Tinker, M.T., J.A. Estes, K. Ralls, T.M. Williams, D. Jessup, and D.P. Costa. 2006. Population Dynamics and Biology of the California Sea Otter (*Enhydra lutris nereis*) at the Southern End of its Range. MMS OCS Study 2006-007. Coastal Research Center, Marine Science Institute, University of California, Santa Barbara, California. MMS Cooperative Agreement Number 14-35-0001-31063.
- U.S. Fish and Wildlife Service. 2003. Final Revised Recovery Plan for the Southern Sea Otter (*Enhydra lutris nereis*). Portland, Oregon. 177 pp.

- Valentine, K., D.A. Duffield, L.E. Patrick, D.R. Hatch, V.L. Butler, R.L. Hall, and N. Lehman. 2008. Ancient DNA reveals genotypic relationships among Oregon populations of the sea otter (*Enhydra lutris*). *Conservation Genetics* 9(4):933-938.
- Wendell, F.E., R.A. Hardy, and J.A. Ames. 1986. An assessment of the accidental take of sea otters, *Enhydra lutris*, in gill and trammel nets. California Department of Fish and Game, Mar. Res. Tech. Rep. 1991. Geographic variation in sea otters, *Enhydra lutris*. *J. Mammal.* 72(1):22-36.
- Wilson, D.E., M.A. Bogan, R.L. Brownell, Jr., A.M. Burdin, and M.K. Maminov. 1991. Geographic variation in sea otters, *Enhydra lutris*. *J. Mammal.* 72(1):22-36.

Authority

The authority for this action is the Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1361 et al.).

Dated: __April 29, 2012__

Signed: _____

Gregory E. Siekaniec

Acting Director, Fish and Wildlife Service

~~(ACTION: Notice of availability of draft revised marine mammal stock assessment report for the southern sea otter stock in California; request for comments.)~~

[FR Doc. 2012-11164 Filed 05/08/2012 at 8:45 am; Publication Date:

05/09/2012]